#4/A Changed 12/3/01

Attorney Docket No.: NC17517
Nokia File No.: NC17517

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application )
)
Inventor(s): TANG, Clive K. )
) Group Art Unit: 2182
Application No.: 09/751,640 )
) Examiner: Not yet Assigned
Filed: December 29, 2000 )
)

Title: ADAPTIVE LEARNING METHOD AND SYSTEM TO ADAPTIVE MODULATION

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**PRELIMINARY AMENDMENT**

Commissioner for Patents
Washington, D.C. 20231

Sir:

Before examination of the above identified patent application, please enter the following amendments.

**IN THE SPECIFICATION:**

**IN THE DRAWINGS:**

Reference numbers cited in the text has been placed on the drawings. No new matter has been added. Drawing sheets with the changes in red are attached and formal drawings are submitted herewith.

**Please replace the paragraph starting on page 2, line 18 with:**

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Typically, the channel quality is assessed by the instantaneous signal-to-noise (SNR) ratio, which is divided into a number of fading regions, with each region mapping into a particular modulation scheme. Thus one basic issue in adaptive modulation is to determine the region boundaries or switching thresholds, i.e. when to switch between different modulation schemes. A common method of setting the thresholds to the signal-to-noise ratio (SNR) required to achieve the target Bit Error Rate (BER) for the specific modulation scheme under additive white Gaussian noise